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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/614,944

07/08/2003

Bernhard Scholz

P03,0260

8935

26574

7590

10/24/2006

SCHIFF HARDIN, LLP  
PATENT DEPARTMENT  
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EXAMINER

SMITH, FANGEMONIQUE A

ART UNIT

PAPER NUMBER

3736

DATE MAILED: 10/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

NT

**Office Action Summary**

Application No.

10/614,944

Applicant(s)

SCHOLZ, BERNHARD

Examiner

Fangemonique Smith

Art Unit

3736

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 September 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/11/06</u> . | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This Office Action is responsive to the Amendment filed on September 11, 2006. Claim 1 is pending.

#### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nachaliel et al. (U.S. Patent Number 6,560,480) in view of Gencer et al. (IEEE Transactions on Biomedical Engineering, Vol. 45, No. 7, July 1998).

In regard to claim 1, Nachaliel et al. disclose a method of impedance imaging of a region within a body. The method employs the use of a multi-element probe to provide an electrical connection to a tissue surface. Nachaliel et al. disclose the method to include steps of applying a sequence of electrical excitation signals having different frequencies to the tissue section and measuring electrical response signals at a plurality of measuring locations on a surface of the tissue section (col. 10, lines 57-67; col. 11, lines 9-22). Nachaliel et al. further disclose method steps including determining electrical admittance data from the response signals gathered by the plurality of sensing elements located on the surface of the tissue section (col. 2, lines 21-67). The Nachaliel et al. method is capable of determining a maximum of the admittance data and identifying a position on the surface of the tissue section corresponding to the maximum.

Art Unit: 3736

Although Nachaliel et al. reveal method steps comprising determination of a depth position of the lesion (col. 3, lines 14-35; col. 20, lines 20-53), Nachaliel et al. do not disclose use of orthogonal lead fields to make the determination of the depth position. Instead, Nachaliel et al. use impedance maps. Gencer et al. disclose a method of localizing neuronal activity using a bimodal lead-field matrix. The method employs the use of an array of electrodes to provide an electrical connection to a tissue surface. Gencer et al. disclose the method to include steps of applying a sequence of electrical excitation signals having different frequencies to the tissue section and measuring electrical response signals at a plurality of measuring locations on a surface of the tissue section (pages ). Nachaliel et al. further disclose method steps including determining electrical admittance data from the response signals gathered by the plurality of sensing elements located on the surface of the tissue section (col. 2, lines 21-67). The Nachaliel et al. method is capable of determining a maximum of the admittance data and identifying a position on the surface of the tissue section corresponding to the maximum. Nachaliel et al. suggest using a bimodal lead field matrix during localization of a lesion (pages 834-836). It would have been obvious to one having ordinary skill in the art at the time the Applicants' invention was made to modify a method of applying a sequence of electrical excitation signals having different frequencies to a tissue section and measuring electrical response signals at a plurality of measuring locations on a surface of the tissue section, similar to that disclosed by Nachaliel et al., to include a method of localizing activity using a bimodal lead-field matrix, similar to that disclosed by Gencer et al., to stabilize and improve localization.

***Response to Arguments***

4. Applicant argues the Nachaliel et al prior art reference applied in previous office action does not suggest a method for determining the depth of a lesion using orthogonal lead fields. The reference instead suggests the depth is determined by impedance maps. Examiner finds this argument persuasive and the 102 rejection in view of Nachaliel et al. has been withdrawn. However, a new rejection has been made addressing the limitations of amended claim 1. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

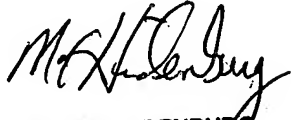
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fangemonique Smith whose telephone number is 571-272-8160. The examiner can normally be reached on Mon - Fri 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Max Hindenburg can be reached on 571-272-4726. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3736

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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